

## 6.0 EVALUATION OF ALTERNATIVES

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### 6.1 INTRODUCTION

This chapter evaluates the alternatives carried forward for detailed analysis in this Draft EIS. This evaluation compares the proposed improvements described in Section 2.4 *Alternatives Advanced* based on their ability to meet the project's Purpose and Need while minimizing the impacts described in Chapter 3.0 *Environmental Resources, Impacts, and Mitigation*. For a discussion of the alternatives development and screening process and how these alternatives were brought forward for detailed analysis, please refer to Chapter 2.0 *Alternatives*.

### 6.2 MEETING THE PROJECT'S PURPOSE AND NEED

The project Purpose and Needs are described in Chapter 1.0 *Purpose and Need* form the basis for the alternative evaluation presented in this chapter, and are described below. The project objective is to implement a plan that will maintain and improve the Pyramid Highway corridor as a viable transportation route for the Sparks urban core and the growing Northeast Truckee Meadows community. The Federal Highway Administration (FHWA), Nevada Department of Transportation (NDOT), and the Washoe County Regional Transportation Commission (RTC) identified multiple statements of purpose in coordination with project stakeholders in support of this objective. The statements of purpose are tied to a recognized need within the Pyramid highway corridor, and are described below:

#### 6.2.1 Purpose: Provide improvements to serve existing and future growth.

**Need:** Serve forecasted population and employment growth in the Cities of Reno and Sparks and unincorporated Washoe County, which have experienced considerable growth in population and employment. The projected increase in population and employment in the region will result in a commensurate increase in vehicle miles traveled, and continue to strain the region's transportation network. Improvements are needed to respond to this recent and forecasted growth. Refer to Chapter 1.0 *Purpose and Need* for more information on Study Area population and employment conditions. The alternatives were evaluated for addressing this need based on their consistency with area plans to accommodate forecasted growth.

- **No-Action Alternative.** Many of the No-Action Alternative transportation improvements are proposed to support existing and planned development within the Study Area and will consist of local roadway connections within planned developments. Although these are consistent with local land use planning, the No-Action Alternative does not address the planning goals shared by Washoe County, Truckee Meadows Regional Planning Agency (TMRPA), RTC, and the City of Sparks to improve Pyramid Highway and improve east-west connectivity, such as an outer

ring highway to accommodate future growth. Because the No-Action Alternative does not include these improvements, it would not be consistent with these planning goals.

- **Build Alternatives.** All of the build alternatives would similarly meet local planning goals by providing the capacity needed on Pyramid Highway to meet the needs of existing and future development, improving connectivity with the new US 395 Connector, especially for the Sun Valley community, and enhancing multimodal transportation options. Therefore, all build alternatives would be consistent with applicable land use planning for the region. Additionally, all build alternatives would support future development in the Study Area, although they may alter the rate, type, and location of development currently planned. No build alternatives would induce growth beyond that planned in the area because of existing development restrictions in these areas.

## 6.2.2 Purpose: Alleviate existing congestion problems on Pyramid Highway.

**Need:** The level of service (LOS) at some Study Area intersections is currently substandard during peak hours, and numerous intersections are anticipated to operate at LOS F during peak hours in year 2035. Analysis indicates that by 2035 the roadway network will not be able to handle the predicted travel demand. The inadequate transportation network serving the Study Area results in congestion at intersections and on roadways. With the projected growth in population and employment, vehicle-miles-traveled (VMT) and vehicle-hours-traveled (VHT) will increase, resulting in decreases in average speed. These conditions will continue to worsen without capacity improvements. Refer to Chapter 1.0 *Purpose and Need* for more information on *Study Area* traffic conditions. The alternatives were evaluated for addressing this need based on their effects on Study Area intersection and roadway LOS, and effects on VMT and VHT.

- **No-Action Alternative:** Congestion under the No-Action Alternative is projected to increase along the entire Pyramid Highway corridor. The projected increase in traffic demand would place additional pressure on the transportation system as a whole. The No-Action Alternative is also projected to have increased VMT and VHT compared to existing conditions.
- **Build Alternatives.** Each of the build alternatives would result in similar traffic conditions on the new facilities, including LOS D or better on freeways, and LOS E or better at intersections. The build alternatives would, however, have minor differences. Alternative 3 with the ridge alignment would result in slightly worse operations on the existing Pyramid Highway between Disc Drive and Golden View Drive, compared to Alternative 1 with the off alignment. Also, traffic operations on Sun Valley Boulevard would be better with Alternatives 3 and 4 that have the interchange located at West Sun Valley, compared to Alternatives 1 and 2. However, Alternatives 3 and 4 would result in more traffic on US 395. Each of the build



alternatives would result in both an increase in total regional VMT and a decrease in VHT compared to the No-Action Alternative as a result of two travel pattern changes. First, the increased roadway capacity would allow motorists to make longer trips with their time, increasing VMT. Second, even though trips would become longer in mileage, the increase capacity and shift of trips from congested arterials to freeway facilities would result in less congestion and faster travel speeds, reducing VHT.

Compared to the No-Action Alternative, the build alternatives would increase the amount of freeway VMT, resulting in a slight decrease in freeway average speed. The build alternatives would notably decrease VMT on arterials, collectors, and other roadways, resulting in less congestion on these roads.

### 6.2.3 Purpose: Provide direct and efficient travel routes to address existing travel inefficiencies

**Need:** The existing roadway network lacks east-west connectivity in the Study Area, and north-south connectivity is inefficient. This lack of adequate travel corridors has created inefficient and indirect travel routes, resulting in out-of direction travel and traffic overloading on roadways with insufficient capacity. Section 3.6 *Transportation* contains more information on Study Area connectivity and access issues. The alternatives were evaluated for addressing this need based on their effects on area connectivity and access.

- **No-Action Alternative.** The No-Action Alternative would not improve connectivity in the Study Area. This alternative would not impact property access along the Pyramid Highway.
- **Build Alternatives.** All build alternatives would improve Study Area and regional east-west connectivity by providing an alternate, high-speed route via the new US 395 Connector. Alternatives 1 and 3 would improve north-south connectivity by adding a new roadway parallel to the existing Pyramid corridor, and provide greater regional connectivity between northern Sparks and central Reno because the off alignment and ridge alignment would provide more direct routes. Alternatives 2 and 4 would provide greater local connectivity to activity areas along Pyramid Highway because the on alignment with frontage roads would provide direct access to those uses.

All build alternatives would convert existing Pyramid Highway to a limited-access freeway for much of the Pyramid Highway corridor, and impact access for many residents and businesses in the Study Area. Some property owners would have improved access, while others would have negative access impacts.

Along the Pyramid Corridor, five roadways that currently have full access to the highway would be closed in each build alternative. Along Pyramid north of Sparks Boulevard, each of the build alternatives would convert two locations that currently have full access to Pyramid Highway to right-in/right-out onto a one-way frontage

road. Alternatives 2 and 4 with the on alignment also would change the access to right-in/right-out onto a one-way frontage road at two locations between Disc Drive and Sparks Boulevard. Access to one-way frontage roads would result in out-of-direction travel for trips turning left on or off the highway, because these trips would need to travel on the one-way frontage road and turn around at the next interchange.

Alternatives 1 and 4 would close part of Rampion Way because of the North Crossing of Sun Valley Boulevard. Alternatives 2 and 3 would close the middle section of East and West Leonesio Drives because of the South Crossing of Sun Valley Boulevard.

#### 6.2.4 Purpose: Respond to regional and local plans.

**Need:** Proposed improvements need to be consistent with the goals and vision of local and regional plans. Several agencies have long identified the need for improvements to the Pyramid corridor and a connection US 395. RTC's *2030 Regional Transportation Plan* includes the Pyramid Highway and US 395 Connection as a fully-funded project. Improvements are also identified in the *Washoe County Comprehensive Plan* and Washoe County's *Spanish Springs Area Plan*. Local area plans also cite the need for increased multimodal options. Additionally, the *Reno Sparks Bicycle & Pedestrian Master Plan* (September 2011) identifies bicycle and pedestrian facilities deficiencies within the Study Area, and includes the goal of providing a comprehensive system of bicycle and pedestrian routes that will offer a safe and convenient circulation system for non-motorized travel. The alternatives were evaluated for addressing this need based on their consistency with area plans.

- **No-Action Alternative.** The No-Action Alternative would not provide improvements to Pyramid Highway or provide a new US 395 Connection, and, therefore, would be inconsistent with regional and local plans. The No-Action Alternative would provide planned bicycle and pedestrian facilities as outlined in area plans and as funding allows.
- **Build Alternatives.** All build alternatives would similarly provide improvements consistent with RTC's 2030 RTP to improve Pyramid Highway and provide a new US 395 connection. The enhanced transit service included with all build alternatives (to serve corridor demand consistent with the service standards of RTC) would meet the needs expressed in area plans to provide a safe, efficient, and multimodal transportation system connecting commercial, employment, and public spaces. All build alternatives also would equally provide a comprehensive system of bicycle and pedestrian routes consistent with area plans by providing shared use paths, bike lanes, and sidewalks that would improve connectivity within the Study Area and the region.

#### 6.2.5 Summary

Table 6-1 summarizes how each alternative would address the project's Purpose and Need.



**Table 6-1. Purpose and Need Summary by Alternative**

<b>Purpose and Need Element</b>	<b>No-Action Alt.</b>	<b>Alt. 1 Off Alignment</b>	<b>Alt. 2 On Alignment</b>	<b>Alt. 3 Ridge Alignment</b>	<b>Alt. 4 On Alignment</b>
Provide improvements to serve existing and future growth.	<ul style="list-style-type: none"> <li>Would not accommodate growth consistent with area goals to provide east-west connectivity or Pyramid Hwy improvements.</li> </ul>	<ul style="list-style-type: none"> <li>Would accommodate growth consistent with area plans to improve east-west connectivity and multimodal transportation options.</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>
Alleviate existing congestion problems on Pyramid Highway	<ul style="list-style-type: none"> <li>Increased congestion along entire Pyramid corridor, placing additional pressure on transportation system as a whole. Increased VMT and VHT compared to existing conditions.</li> </ul>	<ul style="list-style-type: none"> <li>Would meet traffic operations conditions. Better performance on Pyramid Hwy. between Sparks Blvd. and Disc Dr. than Alt. 3.</li> <li>Increase in total regional VMT and decrease in VHT. Increase in freeway VMT.</li> </ul>	<ul style="list-style-type: none"> <li>Would meet traffic operations conditions. Performance on Pyramid Hwy. between Sparks Blvd. and Disc Dr. same as Alt. 1.</li> <li>Increase in total regional VMT and decrease in VHT. Increase in freeway VMT.</li> </ul>	<ul style="list-style-type: none"> <li>Would meet traffic operations conditions. Worse performance on Pyramid Hwy. between Sparks Blvd. and Disc Dr. than other build alts. because some demand would continue to use Pyramid Hwy.</li> <li>Increase in total regional VMT and decrease in VHT. Increase in freeway VMT.</li> </ul>	<ul style="list-style-type: none"> <li>Would meet traffic operations conditions. Same performance on Pyramid Hwy. between Sparks Blvd. and Disc Dr. same as Alt. 1.</li> <li>Increase in total regional VMT and decrease in VHT. Increase in freeway VMT.</li> </ul>
Provide direct and efficient travel routes to address existing travel inefficiencies	<ul style="list-style-type: none"> <li>Would not improve Study Area connectivity. Would not impact access along Pyramid Highway.</li> </ul>	<ul style="list-style-type: none"> <li>Would improve east-west connectivity. New roadway parallel to highway would improve N/S connectivity and more direct route than Alts 2 and 4.</li> </ul>	<ul style="list-style-type: none"> <li>Would improve east-west connectivity. On alignment with frontage roads would provide greater connectivity and direct access to Pyramid Hwy activity areas.</li> <li>Alternatives 2 and 4 with the on alignment would change access</li> </ul>	<ul style="list-style-type: none"> <li>Same as described under Alt. 1.</li> </ul>	<ul style="list-style-type: none"> <li>Same as described under Alt. 2.</li> </ul>

Table 6-1. Purpose and Need Summary by Alternative

Purpose and Need Element	No-Action Alt.	Alt. 1 Off Alignment	Alt. 2 On Alignment	Alt. 3 Ridge Alignment	Alt. 4 On Alignment
Respond to regional and local plans.	<ul style="list-style-type: none"> <li>Inconsistent with area plans to improve Pyramid Highway and east-west connectivity, and provide additional multimodal options. Consistent with area plans to improve bike/ped facilities as funding allows.</li> </ul>	<ul style="list-style-type: none"> <li>Consistent with area plans to improve Pyramid Highway and east-west connectivity, provide additional multimodal options, and improve bike/ped facilities.</li> </ul>	<p>to right-in/right-out onto a one-way frontage road at two locations between Disc Drive and Sparks Boulevard, resulting in out-of-direction travel.</p> <ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>	<ul style="list-style-type: none"> <li>Same as Alt. 1</li> </ul>



## 6.3 ENVIRONMENTAL IMPACTS

Table 6-2 provides a summary of the environmental impacts anticipated from the No-Action Alternative and the build alternatives. It is followed by a discussion of areas where the alternatives have significant differences in environmental impacts.

## 6.4 ENVIRONMENTAL IMPACT COMPARISON

Table 6-2 compares potential environmental impacts between the No-Action Alternative and the build alternatives. It is followed by a discussion of the environmental areas where the alternatives have notably different impacts.

**Land Use.** Comprehensive and regional planning documents for Washoe County, Truckee Meadows Regional Planning Agency (TMRPA), RTC, and the City of Sparks all call for improvements to Pyramid Highway and improved east-west connectivity, such as an outer ring highway. Because the No-Action Alternative does not include these improvements, it would not be consistent with these plans. All build alternatives are consistent with these plans, with the following exception: Alternatives 2 and 4 result in the potential relocation of approximately 30 businesses at the Spark Galleria and are, therefore, less consistent with *The Sparks Plan* (City of Sparks).

Alternatives 1 and 3 would convert approximately 73-124 additional acres of existing land uses to a transportation use, compared to Alternatives 2 and 4. This is a result of Alternatives 1 and 3 traveling along U.S. Bureau of Land Management (BLM) lands west of existing Pyramid Highway, before reaching Sparks Boulevard, whereas Alternatives 2 and 4 follow existing Pyramid Highway, adjacent to existing NDOT right-of-way.

**Social and Environmental Justice.** Under the No-Action Alternative there would be no displacement of minority or low-income residents, businesses, or employees. Environmental Justice (EJ) communities would be indirectly impacted by increased traffic and congestion.

All build alternatives would result in residential displacements. Alternatives 2 and 3 have more impacts than Alternatives 1 and 4 in part due to the 120 potential relocations at the Sierra Point apartment complex. Adverse social impacts, including community isolation, would result in several Sun Valley neighborhoods.

All build alternatives would reduce congestion, increase mobility, improve safety, transit options and air quality in the Study Area, and provide direct and indirect employment. Along with the general population, EJ populations would benefit from the improved access provided by these improvements. Overall, it is determined that project benefits and mitigation would offset disproportionately high and adverse effects to EJ communities from any build alternative.

**Table 6-2. Impact Summary**

Resource	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<b>Land Use</b>					
Consistent with local and regional planning	No. Does not support regional planning since regional efforts include improvements to Pyramid Highway and increase east-west connectivity in the Study Area.	Yes	Yes, but less consistent due to impacts at Sparks Galleria.	Yes	Yes, but less consistent due to impacts at Sparks Galleria.
Bureau of Land Management (BLM) Resource Management Plan (RMP), amendment required.	Not available	No			
Acres of land use converted to a transportation use (right-of-way needed)	Not available	939	849	973	866
<b>Social Resources, Environmental Justice, and Economics</b>					
Local and Regional Access	Traffic congestion and safety hazards would worsen, hindering access to housing, businesses, and community facilities and services. No changes to local access.	All build alternatives would reduce congestion and add lanes to improve the efficiency and safety of Pyramid Highway. The US 395 Connector would allow better east/west mobility. Improved transit would be provided to serve corridor demand consistent with the service standards of RTC, and local transit routes would be reassessed in coordination with RTC Transit Planning to best serve Sun Valley and the northern Reno/Sparks area. Bicyclists and pedestrian opportunities would also be available. Changes to local access points and circulation.			
Short-term Economic Impacts	Would result in direct or indirect employment due to temporary construction jobs.	All build alternatives would result in direct employment related to temporary highway construction jobs. Public investment in infrastructure would result in indirect employment in related industries. Induced employment would be expected as a result of the consumer spending that would result from the wages paid to workers directly or indirectly employed through the infrastructure investment.			
Construction Jobs Created	Not available	7,489	7,906	7,436	8,385





**Table 6-2. Impact Summary**

Resource	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Long-term economic impacts	No loss of tax base due to property acquisitions. Worsening congestion would impair business access	All build alternatives would result in the loss of tax base due to property acquisitions. These losses would likely be offset by the benefits of improved transportation facilities. Improved access expands business potential and residential and commercial property values would rise with proximity to improved transportation infrastructure, including public transit <u>(to serve corridor demand consistent with the service standards of RTC)</u> and other multimodal improvements.			
Relocations in Environmental Justice Communities	Potential for relocations	116	192 (120 potential relocations resulting from acquisition of 2 parcels)	175 (120 potential relocations resulting from acquisition of 2 parcels)	120
Disproportionate High and Adverse Impact	Not available	No. All build alternatives would provide benefits and mitigation that would offset disproportionate high and adverse impacts.			
Right-of-Way					
Potential Residential Relocations					
Single Family	Not available	188	172	127	220
Mobile Home	Not available	22	34	22	34
Multifamily	Not available	0	2 properties, 120 residences	2 properties, 120 residences	0
Total Potential Residential Relocations	Not available	210	326 (120 potential relocations resulting from acquisition of 2 parcels)	269 (120 potential relocations resulting from acquisition of 2 parcels)	254
Potential Business Relocations	Not available	12	26	7	28
Grazing Allotments / Permits on BLM Land	Not available	No BLM land that would be affected is actively grazed, based on multiple and ongoing field observations. Effects to any grazing allotment and/or permits would be further invested during later stages of project development, including Final EIS preparation, final design, and the right-of-way process.			
Transportation					
Meets identified local and regional transportation needs	No	Yes	Yes	Yes	Yes
Vehicle Hours Traveled (annually)	435,000	408,000	408,000	406,000	407,000

**Table 6-2. Impact Summary**

Resource	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Vehicle Miles Traveled (annually)	17,705,000	17,740,000	17,741,000	17,740,000	17,747,000
Transit Improvements	None	All build alternatives include new regional bus service along Pyramid Highway to serve corridor demands consistent with the service standards of RTC, and three new transit/carpool parking lots at major cross streets.			
Traffic Noise					
Number of impacted receivers	205	200	285	189	280
Air Quality					
NAAQS criteria exceeded	Not available	No alternative would cause an exceedance of NAAQS criteria. Improved transportation operations would result in improved air quality compared to the No Action Alternative.			
Pedestrians and Bicyclists					
Bicycle and pedestrian facilities	Some improvements are planned along Pyramid Highway, pending funding.	All build alternatives include providing more bicycle and pedestrian improvements than planned under the No-Action Alternative. Improvements would occur along Pyramid Highway and between Pyramid Highway and US 395 along the US 395 Connector and Dandini Boulevard.			
Water Quality					
Acres of impervious surface added	Not available	395	391	393	392
Construction considerations	Not available	Alternatives 2 and 4 have the least amount of ground-disturbing activity and potential for short-term impacts during construction. Alternatives 1 and 3 have the least large cut and fill slopes and potential for long-term water quality impacts			
Wetlands and other Waters of the U.S.					
Wetlands - square feet of fill	Not available	10	3,463	520	109
Waters of the US – acres of fill	Not available	0.20	0.40	0.28	0.39
Floodplains					
Acres of impact in the 100-year floodplain	Not available	18.6	16.1	14.4	18.1
Vegetation, Wildlife, and Special Status Species					
Key Habitat Impacts – Acres, Temporary/Permanent	Not available	699/744	699/747	742/739	687/739



**Table 6-2. Impact Summary**

Resource	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
BLM Land Converted to Transportation Use	Not available	Alternatives 1 and 3 would have the greatest impact to vegetation, wildlife, and special status species resulting from conversion of existing BLM land to a transportation use.			
Visual					
Changes to visual landscape	Visual changes associated with continued area development, and would be consistent with local and regional visual preservation policies.	Similar visual impacts to area residents, businesses, and motorists by introducing new visual elements in the Study Area in the form of street lighting, bridges, ramps, new roadway alignment, cut and fill areas, retaining walls, screening walls, and traffic noise barriers. All build alternatives would be consistent with local and regional visual preservation policies, including the City of Sparks “hillside” ordinance.			
Sensitive Resources	Not available	Alternative 1 and 4 would have the least visual impacts to Wildcreek Park users.	Alternative 2 would have the highest visual impacts to Wedekind Park users.	Alternative 3 would have the lowest visual impacts to Wedekind Park users.	Alternative 1 and 4 would have the least visual impacts to Wildcreek Park users.
Historic					
Prosser Ditch	Not available	Adverse Effect	Adverse Effect	Adverse Effect	Adverse Effect
Sierra Vista Ranch, Trosti Family/Kiley Ranch, and Iratcabal Farm Historic Districts	Not available	No Adverse Effect			
Hazardous Materials					
Number of potential contaminated sites within the construction limits	Not available	10	9	8	9
Number of potential contaminated sites within ¼ mile of improvements	Not available	32	32	35	35
Parks and Recreation					
Acres of impact to Wedekind Park	Not available	4.1	5.4	4.1	5.4
Access changes at Lazy 5 Regional Park	No	Yes	Yes	Yes	Yes

Table 6-2. Impact Summary

Resource	No-Action Alternative	Alternative 1	Alternative 2	Alternative 3	Alternative 4
<b>Farmland</b>					
Acres, Prime Farmland Impacted	Not available		0		
<b>Use of Section 4(f) properties</b>					
Wedekind Park	Not available	All build alternatives would impact Wedekind Park, converting park land to transportation uses, resulting in a <i>de minimis</i> impact.			
Prosser Ditch	Not available	25 linear feet of impact	25 linear feet of impact	120 linear feet of impact	90 linear feet of impact



**Economic.** The No-Action Alternative would potentially require business relocations from construction of new roads; the exact relocations are not available at this time. The No-Action Alternative would not provide the capacity and access improvements associated with the build alternatives. This would adversely affect the long-term growth of the tax base and revenues that would result from economic activity, such as planned development. Worsening congestion and safety concerns would make it increasingly difficult to access businesses throughout the Study Area.

All build alternatives would result in the potential relocation of businesses and additional land not within the right-of-way, which would result in loss in the tax base and tax revenues. These losses would be offset by improved access, which expands business potential, rising property values near improved transportation infrastructure, and the creation of 7,400 to 7,900 temporary construction jobs created.

Each build alternative would require right-of-way from trust land of the Reno Sparks Indian Colony, located at the existing Pyramid Highway/Eagle Canyon Boulevard intersection. This land is currently zoned for commercial development. Tribal governments are sovereign nations and acquiring trust land for right-of-way requires adherence to unique processes.

**Relocations.** Alternatives 2 and 3 would potentially result in the most residential relocations. The largest impact would be the acquisition of several buildings at the Sierra Point apartment complex, requiring 120 potential relocations. Alternatives 2 and 4 would result in the most business relocations due to the potential relocation of approximately 30 businesses at the Sparks Galleria.

**Transportation.** The No-Action Alternative would not improve traffic operations, safety, connectivity, or transit operations Study Area. While some improvements are planned within the Study Area in the No-Action Alternative, these would not alleviate the major congestion issues.

All build alternatives would improve traffic operations, safety, connectivity, and transit operations. Access changes would alter localized travel patterns, but these changes are offset by increased efficiency of traffic operations, particularly for east-west travelers using the US 395 Connector. The US 395 Connector would decrease travel times while relieving congestion on McCarran Boulevard. Alternatives 1 and 3 would increase north-south connectivity by providing a new roadway to existing Pyramid Highway.

**Traffic Noise.** Traffic noise impacts would be similar for the No-Action Alternative and Alternatives 1 and 3. Alternatives 2 and 4 would have higher traffic noise impacts compared to Alternatives 1 and 3 because the roadway alignment along portions of Pyramid Highway between Disc Drive and Sparks Boulevard would be constructed closer to residences. In Sun Valley, the southern alignment over Sun Valley Boulevard

included with Alternatives 2 and 3 would result in higher traffic noise impacts than Alternatives 1 and 4.

**Water Quality.** There is little difference in the amount of new impervious surface resulting from the build alternatives. Topography and ground disturbance are the next best indicators of potential water quality impacts. In this regard, each build alternative has merits and limitations compared to other alternatives. Alternative 3 has a large amount of ground-disturbing activity, but its location along a ridgeline facilitates slope stabilization and stormwater management. Alternative 1 traverses a side slope, which complicates the ground-disturbing activities, but it would have less overall ground disturbance compared to Alternative 3. Lastly, Alternatives 2 and 4 would have the largest cut and fill slopes, but the least amount of ground disturbance.

**Wetlands and Other Waters of the U.S.** Alternative 2 would result in approximately 3,500 square feet of wetlands impact because of the proposed interchange at Sun Valley Boulevard. All build alternatives would likely require a Section 404 permit from the U.S. Army Corps of Engineers due to impacts to wetlands and other waters of the U.S.

**Vegetation, Wildlife, and Special-Status Species.** BLM land provides the majority of wildlife habitat in the Study Area. All the build alternatives would convert existing BLM land to a transportation use resulting from construction of the US 395 Connector. Alternatives 1 and 3, south of the Pyramid Highway/Sparks Boulevard intersection, would impact additional BLM land as they leave the existing Pyramid Highway corridor and traverse the slopes and ridge behind Walmart. Alternatives 1 and 3 would result in approximately 37 percent more BLM land impacts compared to Alternatives 2 and 4.

**Historic Resources.** The No-Action Alternative would not result in new impacts to historic resources within the Area of Potential Effects. All build alternatives would result in No Adverse Effect to the three historic districts located within the Area of Potential Effect. All build alternatives would have an Adverse Effect on the Prosser Valley Ditch, an NRHP-eligible resource. Alternative 1 and 2 would result in the least impact to the ditch, with 25 feet of direct impacts, whereas Alternative 3 would result in the highest impacts at 120 feet.

**Section 4(f).** All build alternatives would impact Wedekind Park, converting park land to a transportation use. Acreages vary, but all build alternatives result in a *de minimis* impact. Alternatives 3 and 4 have the greatest impact to the historic Prosser Ditch, resulting in 120 and 90 linear feet of impact, respectively. Alternatives 1 and 2 both result in 25 linear feet of impact.